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NEW OR INTERESTING SPECIES OF GILL FUNGI FROM MISSOURI

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The following collections of gill fungi made by the writer in the vicinity of St. Louis, Missouri, within the past two years are believed to be undescribed.

Claudopus subnidulans Overholts, n. sp.

Pileus sessile, reniform or dimidiate in outline, convex, 0.5–2 cm. broad, bright tawny orange, fibrillose-tomentose, dry; margin inrolled, even or very slightly striate; flesh thin, white; odor and taste none; gills radiating outward from the point of attachment of the pileus, medium distant, rather broad (3–5 mm.), salmon-colored or dull orange; stem none, the pileus attached by a white tomentose base; spores salmon-colored, globose, smooth, 5–7 μ broad; cystidia none.

On rotten logs in damp woods. Jefferson Barracks, near St. Louis, Missouri, October 25, 1913.

Type collection in Herb. Overholts No. 1460, and specimens from this collection are deposited in the herbarium of the Missouri Botanical Garden.

The species resembles *C. nidulans*, but differs in the constantly smaller size and the exactly globose spores.

Panaeolus reticulatus Overholts, n. sp. Plate 6, fig. 1.

Pileus hemispheric then expanded, sometimes somewhat umbonate, 3.5–6 cm. broad, between drab and light brownish umber when young, usually smoky brown or blackish with age, dry, everywhere pitted or when older appearing fibrous-reticulate; the margin even, at first incurved then wavy; flesh thin, watery, pallid; taste and odor not characteristic; gills broadly attached but sometimes sinuate, often separating with age, spotted, or in age uniformly black, rather close,

unequal, 4–7 mm. broad, the edge whitish; stem central, terete, equal or slightly tapering downward, hollow, twisted, pruinose-scabrous at the apex, somewhat shining, pale brown, cartilaginous and brittle, 4–8 cm. long, 4–8 mm. thick; veil not apparent; spores elliptic or broadly elliptic, nearly black, $8-10 \times 5.5-6.5 \mu$; cystidia none.

Cespitose or gregarious on earth in flower beds in the Missouri Botanical Garden, May 31, 1915; also at the same place, June 17, 1915.

Type collection in Herb. Overholts No. 2795, and specimens from this collection are deposited in the herbaria of the New York Botanical Garden and the Missouri Botanical Garden.

The species is in every way distinct from *P. retirugis* Fries and *P. alveolatus* Peck. The pileus when very young is pitted only in the center, but mature plants are pitted all over and at times appear reticulate. When dried the pileus is smooth or nearly so.

Panaeolus rufus Overholts, n. sp.

Plate 6, fig. 2.

Pileus convex to nearly plane, sometimes broadly umbonate, 2–5 cm. broad, varying in color from tan to light brown or chestnut, darkest at the center, dry, glabrous, often becoming cracked and areolate except at the center; margin even, extending slightly beyond the lamellae; flesh thin, white; odor none; taste farinaceous; gills adnate or adnexed, medium close or slightly distant, spotted, becoming blackish brown, whitish on the edge; stem central, terete, pruinose, striate, light-colored above, becoming dark reddish brown below, white tomentose at the base, firm, cartilaginous, hollow, 5–10 cm. long, 2.5–6 mm. thick; veil not apparent; spores elliptic or broadly elliptic, almost black in mass, $12-13.5 \times 7.5-9 \mu$; cystidia none.

Gregarious on a compost heap in the Missouri Botanical Garden, June 1, 1915.

Type collection in Herb. Overholts No. 2796, and specimens from this collection are deposited in the herbaria of the Missouri Botanical Garden and the New York Botanical Garden.

The plants are more highly colored than in any described species of *Panaeolus*.

Panaeolus variabilis Overholts, n. sp. Plate 6, figs. 3, 4.

Pileus slightly campanulate to convex or plane, young specimens indistinctly umbonate, 2–6 cm. broad, very variable, when young hygrophane, fleshy brown mingled with gray, somewhat rugose, when mature dry and lighter or creamy white, glabrous; margin even; flesh thin, concolorous; odor none; taste slightly farinaceous; gills adnate to adnexed, at first light brown, then spotted, finally black, rather close, 3–6 mm. broad, whitish on the edge; veil none; stem central, terete, equal or nearly so, pallid to slightly flesh-color or dark brown, floccose-pruinose when young, usually striate at the apex, hollow from the first, 4–9 cm. long, 2–5 mm. thick; spores broadly elliptic or ellipsoid, black, $12\text{--}13 \times 7\text{--}9\mu$; cystidia none.

Gregarious or subcespitose on earth in flower beds and among shrubbery in the Missouri Botanical Garden, May 31, 1915; also from the same place, June 17, 1915.

Type collection in Herb. Overholts No. 2794, and specimens from this collection are deposited in the herbaria of the Missouri Botanical Garden and the New York Botanical Garden. The species is a very variable one.

AN INTERESTING VARIETY OF *PLUTEUS CERVINUS*

In November, 1914, while collecting in the region of Pacific, Missouri, the writer found a large cluster of a species of *Pluteus* growing in the sawdust on an old sawmill site. There were about thirty individuals in the cluster, and they ranged from 11 to 16 cm. broad. The specimens were much larger than is usual in *Pluteus cervinus*, and the fibrils on the pileus were much more conspicuous than in that species. These facts, together with the cespitose habit and another character mentioned below, seemed to justify the separation of these specimens into a new species. Further study has led the writer to modify this first conclusion, and the plants are now referred to *P. cervinus*. The variations are so marked, however, that they deserve notice, the accompanying

figures showing these points. For convenience this collection will be referred to below under my herbarium number, 2316.

A microscopic examination of the hymenium of this and other collections of *P. cervinus* reveals some interesting variations in the form of the cystidia. These are more or less flask-shaped structures and hyaline. The accompanying figures show the variations. In all collections examined (except the one referred to above) some of the cystidia have peculiar thorn-like projections more or less abundant. Figure *A* is from my herbarium, No. 2809, and in most collections it is probably the most typical form present. Figures *B*, *C*, and *D* are from my herbarium, No. 1624, and the thorny type

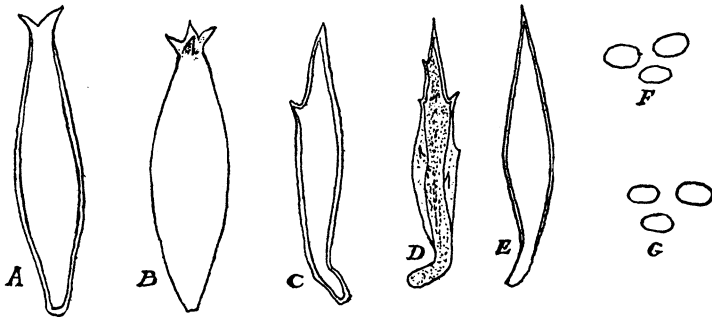


Fig. 1. Various types of cystidia found in hymenium of *Pluteus cervinus*: *A*, from herbarium No. 2809; *B*, *C*, and *D*, from herbarium No. 1624, the thorny type *D* being most abundant; *E*, cystidium of *P. cervinus* var. *caespitosus*. (This type is also present in other collections.) *F*, spores of *P. cervinus*; *G*, spores of *P. cervinus* var. *caespitosus*.

of cystidium was better developed in that collection than in any other one examined. These sharp projections were most often not present on the apex of the cystidium, but were scattered along the sides as thorns on a stem. In both collections cited and in all others examined there were present also a large number of entirely smooth, sharp-pointed cystidia. When collection No. 2316 was examined no cystidia with thorny projections were seen. It is very doubtful whether this is a constant character on which, together with other before-mentioned facts, a new species might be segregated. However, there are certainly no such cystidia present as in the other collections; but the presence in other collections of en-

tirely smooth cystidia seems to bridge over the gap in this respect, and it seems best at present to regard this latest collection as only a variety of *Pluteus cervinus*.

P. petasatus Fries, sometimes regarded as a synonym of *P. cervinus*, approaches this collection in size and is reported as growing on sawdust, but it is described as glabrous and commonly umbonate—characters that do not apply to my plants. For convenience the present collection may be designated as follows:

***Pluteus cervinus* var. *caespitosus* Overholts, n. var.**

Plate 6, figs. 5, 6.

Pileus 11–16 cm. broad, very slightly viscid, decorated with brownish fibrils or appressed, fibrillose scales that are more prominent in the center; gills 1–1.7 cm. broad; stem 10–15 cm. long, 1.3–2.5 cm. thick; spores oblong-ellipsoid, smooth, hyaline under the microscope, salmon-colored in mass, $4-7 \times 3-4\mu$; cystidia abundant, fusiform, sharp-pointed, smooth, $40-75 \times 10-12\mu$.

On heap of sawdust. Densely cespitose in a cluster of about thirty plants. Pacific, Missouri, November 9, 1914.

Type collection in Herb. Overholts No. 2316, and a single specimen from the collection has been deposited in the herbarium of the Missouri Botanical Garden. The variety is edible and quite delicious.

EXPLANATION OF PLATE

PLATE 6

Fig. 1. *Panaeolus reticulatus*. From photograph of type specimen in Herbarium Overholts No. 2795.

Fig. 2. *Panaeolus rufus*. From photograph of type specimen in Herbarium Overholts No. 2796.

Figs. 3 and 4. *Panaeolus variabilis*. From photographs of type specimen in Herbarium Overholts No. 2794.

Figs. 5 and 6. *Pluteus cervinus* var. *caespitosus*. From photographs of type specimen in Herbarium Overholts No. 2316.



OVERHOLTS—GILL FUNGI